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10/597,731

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Kwang-Man Kim

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EXAMINER

WILBUR, NICHOLAS A

ART UNIT

PAPER NUMBER

3672

NOTIFICATION DATE

DELIVERY MODE

06/25/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|---------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/597,731 | Applicant(s) KIM ET AL. | |
| | Examiner NICHOLAS A. WILBUR | Art Unit 3672 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/04/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-10 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 1 has perspective views of male threads and nuts. These figures should be labeled separately and should each have its own description in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation "a reinforced steel plate coupled to both ends of the base steel plates" renders the claim indefinite because it is unclear how a single reinforced steel plate can be coupled to **both** ends of the base steel plates. For examination purposes, the Examiner reads the claim as saying --a reinforced steel plate coupled to **each** end of the base steel plates--.

Regarding claim 8, line 5 contains the limitation "the second through-holes" which lacks proper antecedent basis in the claims. Claim 8 merely states "at least one second through-hole" not a plurality of through-holes.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheu (US 6,240,700).

Regarding claim 1, Sheu discloses a reinforcement of foundation comprising at least two base steel plates (20) arranged to be upright with respect to the ground (as

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shown in Figure 3), a reinforced steel plate (10) coupled to each end of the base steel plates (as shown in Figure 3), and fastening steel rods (22) coupled to the reinforced steel plate to be parallel to the base steel plates (as shown in Figure 3).

Regarding claim 2, Sheu further discloses wherein the base steel plates are arranged in parallel with each other (as shown in Figure 3).

Regarding claim 7, Sheu further discloses wherein a pair of fastening steel rods (22) are placed to extend in the longitudinal direction of the base steel plates (25) and coupled to the reinforcing steel plate (10) to be spaced apart rightward and leftward from positions where the base steel plates and reinforcing steel plates are coupled together (as shown in Figure 3).

Regarding claim 8, Sheu further discloses wherein the base steel plate (20, right side of Figure 3) includes at least one through-hole (as shown in Figure 3), and there is a connection steel rod (24) which passes through the through-holes and is coupled to the base steel plates (as shown in Figure 3).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheu as applied to claim 1 above, in view of Pidgeon (US 2004/0226236).

Regarding claim 3, Sheu discloses all the elements of claim 1, but fails to disclose wherein the base steel plates are radially arranged around a vertical centerline.

However, Pidgeon discloses a reinforcement of foundation that arranged base steel plates (14) radially to have a constant angular interval around a vertical centerline (as shown in Figure 1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the reinforcement of foundation of Sheu to include the radial arrangement of base plates of Pidgeon in order to optimally support a rectangular building structure (see paragraph 2, lines 5-6).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheu as applied to claim 1 above, in view of Butler (US 5,564,235).

Regarding claim 4, Sheu discloses all the elements of claim 1, but fails to disclose wherein the base steel plates include at least two transversal base steel plates and at least one longitudinal base steel plate coupled to the transversal base steel plates.

However, Butler discloses a reinforcement of foundation that uses at least two transversal base steel plates and at least one longitudinal base steel plate coupled to the transversal steel plates (as shown in Figures 1 and 2).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the reinforcement of foundation of Sheu to include the transversal and longitudinal base steel plates of Butler in order to increase the stability of the device.

10. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheu as applied to claim 1 above, in view of Fey et al. (US 6,050,038).

Regarding claim 6, Sheu discloses all the elements of claim 1, and further discloses wherein the reinforced steel plates has first through-holes formed at positions corresponding to both ends of the fastening steel rods (22) (as shown in Figure 3), and each of the fastening steel rods is coupled to the reinforcing steel plate such that both ends of the fastening steel rod can pass through the through-holes and protrude outward from the reinforced steel plate (as shown in Figure 3).

Sheu fails to disclose wherein male threads are formed on the ends of the fastening steel rods and wherein nuts can be engaged with the male threads.

However, Fey discloses a foundation structure that has fastening steel rods (60, 62, 64, 66) that protrude through reinforcing plates (14) that have male threads that are engaged by nuts (as shown in Figure 3).

Regarding claim 9, Sheu discloses all the elements of claim 1, but fails to disclose wherein male threads are formed on the ends of the connection steel rods and wherein nuts can be engaged with the male threads.

However, Fey discloses a foundation structure that has fastening steel rods (60, 62, 64, 66) that protrude through reinforcing plates (14) that have male threads that are engaged by nuts (as shown in Figure 3).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the reinforcement of foundation of Sheu to include the male threads and nuts on fastening rods of Fey in order to tension the rods and tighten the plates together (column 4, lines 44-47 of Fey).

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheu as applied to claim 8 above, in view of Bravinski (US 2004/0035073).

Regarding claim 10, Sheu discloses all the elements of claim 8 but fails to disclose wherein the connection steel rod is fixedly welded to the base steel plates at points where the connection rod simply passes through the base plate through-holes.

However, Bravinski discloses a construction module that utilizes connection rods (414) between base plates (410) wherein the connection rods are welded where they

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pass through a hole in the base plates and at the intersecting points with the fastening steel rods (420) Bravinski discloses that it is well known in the art to weld steel rods at intersecting points to increase the stability of the structure (see paragraph 120).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the reinforcement of foundation of Sheu to include the step of welding the connection steel rods at intersecting points in order to increase the stability of the structure (see paragraphs 120 and 153 of Bravinski).

Allowable Subject Matter

12. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kubica (US 6,349,520) for a reinforcement of foundation that uses base steel plates, reinforcing plates, and fastening steel rods.

Godfrey (US 6,076,311) for a reinforcement of foundation that uses base steel plates, reinforcing plates, and fastening steel rods.

Gibson (US 2002/0062615) for a reinforcement of foundation that uses base steel plates, reinforcing plates, and fastening steel rods that is placed in-ground.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICHOLAS A. WILBUR whose telephone number is (571)270-5746. The examiner can normally be reached on Monday-Friday 7:30 AM- 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571)272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David J. Bagnell/
Supervisory Patent Examiner, Art Unit 3672

NW
06/19/2009